

Date: Monday, 07/07/2008 4:16:07 PM  
 User: Julie Lecocq

## Process Sheet

<b>Customer</b> :	CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> :	BK117 SKIDTUBE ASSEMBLY
<b>Job Number</b> :	40333		
<b>Estimate Number</b> :	12899		
<b>P.O. Number</b> :		<b>Part Number</b> :	D117762011
<b>This Issue</b> :	07/07/2008	<b>S.O. No.</b> :	
<b>Prsht Rev.</b> :	NC	<b>Drawing Number</b> :	N/A <del>PRELIM</del> <i>JE</i>
<b>First Issue</b> :	/ /	<b>Project Number</b> :	N/A
<b>Previous Run</b> :	40332	<b>Drawing Revision</b> :	A <del>PRELIM</del> <i>JE</i>
<b>Written By</b> :		<b>Material</b> :	
<b>Checked &amp; Approved By</b> :	<i>JUD 08.7.07</i>	<b>Due Date</b> :	18/07/2008
<b>Comment</b> :	Est Rev:A 07.06.11 New Issue EC Est Rev:B 08-02-22 change to revA DD verified by:		

Qty: 1 Um: Each

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	DC	DOCUMENT CONTROL
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*JUD 08.7.24*



Comment: DOCUMENT CONTROL

Photocopy bluefile &amp; type labels per PPP D117-762-011 CHG001

*S 08/06/05*

2.0	40333A	BK117 SKIDTUBE ASSEMBLY
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Comment: Sub-Component BK117 SKIDTUBE ASSEMBLY

1 x D117-762-041 Batch: *40333A*

*SC*

3.0	PACKAGING 1	PACKAGING RESOURCE #1
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Comment: PACKAGING RESOURCE #1

Pick Packing Kit

4.0	D35121	Wearplate
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Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

WEARPLATE

Batch: *39020*

*JS 08/07/10 (X1)*

5.0	AN960JD10L	Washer
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Comment: Qty.: 8.0000 Each(s)/Unit Total: 8.0000 Each(s)

Washer

Batch: *M104885*

*JS 08/07/10 (X1)*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Monday, 07/07/2008 4:16:08 PM  
User: Julie Lecocq

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 40333

Part Number: D117762011

Job Number:



Seq. #:	Machine Or Operation:	Description :
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6.0	AN3C4A	BOLT
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Comment: Qty.: 8.0000 Each(s)/Unit Total: 8.0000 Each(s)

BOLT

BATCH: M108568 *New Batch*

7.0	AN451A	Bolt
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Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

Bolt

BATCH: 108071

8.0	D2972	Bushing
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Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Bushing

BATCH: 14103

9.0	MS21042L4	Nut
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Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

Nut

BATCH: M107478

10.0	QC4	INSPECT 100% KITS FOR COMPLETENESS
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Comment: INSPECT 100% KITS FOR COMPLETENESS

11.0	PACKAGING 1	PACKAGING RESOURCE #1
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Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D117-762-011

Location:

PPP Rev: Draft

12.0	QC21	FINAL INSPECTION/W/O RELEASE
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Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



*Handwritten:* B 40333 A

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 07/07/2008 4:16:45 PM  
 User: Julie Lecocq

## Process Sheet

<b>Customer</b> :	CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> :	BK117 SKIDTUBE ASSEMBLY
<b>Job Number</b> :	40333A	<b>Part Number</b> :	D117762041
<b>Estimate Number</b> :	12898	<b>Drawing Number</b> :	D3582 REVA PRELIM <i>B</i>
<b>P.O. Number</b> :		<b>Project Number</b> :	N/A
<b>This Issue</b> :	07/07/2008	<b>Drawing Revision</b> :	A PRELIM <i>B</i>
<b>Prsht Rev.</b> :	NC	<b>Material</b> :	
<b>First Issue</b> :	/ /	<b>Due Date</b> :	18/07/2008
<b>Previous Run</b> :	40332A	<b>Qty:</b>	1 Um: Each
<b>Written By</b> :			
<b>Checked &amp; Approved By</b> :	<i>JLD 08-7-07</i>		
<b>Comment</b> :	Est Rev:A 07.06.11 New Issue EC Prototype for engineering use only (LG0005-32910) Est Rev:B 08-02-22 change to revA as per dwg DD verified by:		

## Additional Product

Job Number:



<b>Seq. #:</b>	<b>Machine Or Operation:</b>	<b>Description :</b>
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1.0	DC	DOCUMENT CONTROL
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**Comment:** DOCUMENT CONTROLPhotocopy bluefile & type labels per PPP D117-762-041 CHG001 *N/A*

2.0	D2962150	3.540 Outer Tube, Extrud
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**Comment:** Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part Number Description Batch

1 D2962-150

Extrusion

*B28672**DP8-7-10*

3.0	SKIDTUBES 1	SKIDTUBESS RESOURCE 1
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**Comment:** LANDING GEAR RESOURCE 1

1-Determine square end of tube and deburr

2-Drill #30 pilot holes using DT8678. Do not open holes.

3- Deburr holes.

*DP8-7-10*

4.0	BENDING	BENDING MACHINE - SKIDTUBES
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**Comment:** BENDING MACHINE

Bend tube as per program on CNC Bender and Dwg D3582. Use 5/16" locator pin on buggy "A".

*DP8-7-10*

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
		Section B-B detail is incorrect.						

NOTE: Date & initial all entries

Date: Monday, 07/07/2008 4:16:45 PM  
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## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 40333A

Part Number: D117762041

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

- 1-Cut Fwd end of the tube using DT8185
- 2-Cut Aft end at VC using DT8185
- 3-Deburr ends
- 4-Drill Aft Cap holes using DT8678 \*\*\*DO NOT OPEN AFT CAP HOLE\*\*\*
- 5-Locate DT 8973 & Drill Ground wire hole on top of Tube.
- 6-Install 3/16 cleco in Ground wire hole ,then drill all X-Bolt holes using 3/16" drill.
- 7-Drill pilot holes for wearplates using DT8974
- 8-Open wearplate holes and ground wire holes to Ø19/64" (0.297") as per Dwg D3582.
- 9-Open Aft Cap holes using .209" drill.
- 10-Deburr holes.

8-7-11

8-8-14

6.0

D2964

Cap



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Cap

Batch:

214101 BE 8-7-14

7.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Weld fwd cap D2964 per dwg D3582 and QSI 004

A/R AL ROD

Batch:

m108096/m107877 BE 8-7-14

2-Grind flush

BE 8-7-14

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D117-762-011 PAR #: 08-025 Fault Category: Prod / Skid Use Engineering Coordinator Yes NCR: Yes No DQA: D Date: 08/08/25  
QA: N/C Closed: D Date: 08/08/25

NCR: <u>40333A</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
08-07-14	5.0	Section B-B R the drilling depth is incorrect. Holes were 35° from the horizontal CL, instead of the vertical, on the tooling DT 8973	<u>Q51042</u>	Fill in holes on the tube correct the tooling per PAR 08-025 <u>AK M/0809/6</u>	<u>BE 08-07-14</u>	<u>0808/25</u>	<u>0808/25</u>	<u>0807/14</u>
		R.C: Incorrect holes in tooling						

NOTE: Date & initial all entries



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## Process Sheet

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Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 40333A

Part Number: D117762041

Job Number:



Seq. #:

Machine Or Operation:

Description :

8.0

QC10

VISUAL INSPECTION OF GROUND WELDS



Comment: VISUAL INSPECTION OF GROUND WELDS

*Handwritten: 1608-14 (1)*

9.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

*Handwritten: 1608-14 (1)*

10.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

*Handwritten: A4M 7-8-14 DP 8-8-15*

11.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

*Handwritten: H 7-8-14*

12.0

D2971

Cross Bolt Spacer



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Cross Bolt Spacer  
batch *39011*

*Handwritten: (1) H 7-8-18*

13.0

D2973

Cross Bolt Spacer



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Cross Bolt Spacer  
Batch: *B14631*

*Handwritten: (2) H 7-8-18*

14.0

D36621

Crossbolt Spacer



Comment: Qty.: 3.0000 Each(s)/Unit Total : 3.0000 Each(s)

SPACER  
batch *B 39 585*

*Handwritten: (3) H 7-8-18*

15.0

D36623

Crossbolt Spacer



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

SPACER  
batch *37190*

*Handwritten: (1) H 7-8-18*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 40333A

Part Number: D117762041

Job Number:



Seq. #:

Machine Or Operation:

Description :

16.0

D35841

Web



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

WEB

40362

SL 8-8-15

17.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Open X-Bolt holes to .750"(4Places) as per Dwg D3582, section B-B

2-Counter Sink X-BOLT holes as per Dwg D3582

3-Deburr and blow out chips from inside of tube.

4-Bond web as per Dwg D3582 & QSI 015

A/R 241 Sike Flex Batch: 18801

Exp Date: 8-10-1

5-Weld x-bolt spacers(D2973) as per Dwg D3582,section B-B.

A/R AL ROD Batch: M108096

6-Grind welds flush

Tools: E

18.0

QC10

VISUAL INSPECTION OF GROUND WELDS



Comment: VISUAL INSPECTION OF GROUND WELDS

19.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

20.0

POWDER COATING

PRESSURE  
WASH

POWDER COATING

08-08-19 x 1.0



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

3:30  
320 OF  
4:00

M-1 08/08/14

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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User: Julie Lecocq

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 40333A

Part Number: D117762041

Job Number:



Seq. #:

Machine Or Operation:

Description :

21.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

BR 08-08-20

22.0

ALS41032130

Insert



Comment: Qty.: 36.0000 Each(s)/Unit Total : 36.0000 Each(s)

Insert

Batch: M 105819

BR

23.0

ALS4428165

Inserts



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Inserts

batch M 6989

\*\*\*same as ALS7-428-165 QSI 0017 \*\*\*

BR

24.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Install Wearplate & Ground Wire inserts as per Dwg D3582.

BR 08-08-20

25.0

D2965

Cap, 105 Skidtube



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Cap

Batch: B 41523

BR

26.0

D35083

Wearplate



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARPLATE

Batch: B 38431

BR

27.0

D35089

Wearplate



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARPLATE

Batch: B 40359

BR

BR 08-08-20

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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**NOTE:** Date & initial all entries

Date: Monday, 07/07/2008 4:16:45 PM  
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## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 40333A

Part Number: D117762041

Job Number:



Seq. #:

Machine Or Operation:

Description :

28.0

D350811

Wearplate



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Batch:

WEARPLATE

B 36415

BR.

29.0

D350813

Wearplate



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

WEARPLATE

Batch:

B 38528

BR

30.0

D35583

Gasket



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

GASKET

Batch:

B 38613

BR.

31.0

D35589

Gasket



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

GASKET

Batch:

B 40361

BR.

32.0

D355811

Gasket



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

GASKET

Batch:

B 40399

BR.

33.0

D355813

Gasket



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

GASKET

Batch:

B 36418

BR

34.0

AN3C4A

BOLT



Comment: Qty.: 28.0000 Each(s)/Unit Total: 28.0000 Each(s)

BOLT

Batch:

M 108599

BR

BR 080820

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 40333A

Part Number: D117762041

Job Number:



Seq. #:

Machine Or Operation:

Description :

35.0

AN3C5A

Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

Bolt

Batch: *M108744*

*BL*

36.0

AN44A

Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

Bolt

batch *M106918*

*BL*

37.0

AN960C10L

washer



Comment: Qty.: 28.0000 Each(s)/Unit Total: 28.0000 Each(s)

washer

Batch: *M108618*

*BL*

38.0

AN960JD10L

Washer



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

Washer

batch *M104885*

*BL*

39.0

AN960JD416L

Washer



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

Washer

batch *M108138*

*BL*

40.0

D3492049

Plug Assembly



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

PLUG ASSEMBLY

batch *B37285*

*BL*

41.0

D3492051

Plug Assembly



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

PLUG ASSEMBLY

batch *B37289 89723*

*BL*

*BL 08-08-20*

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BK117 SKIDTUBE ASSEMBLY

Job Number: 40333A

Part Number: D117762041

Job Number:



Seq. #:

Machine Or Operation:

Description :

42.0

D3492053

Plug Assembly



Comment: Qty.: 6.0000 Each(s)/Unit Total : 6.0000 Each(s)

PLUG ASSEMBLY

batch

B 3907

BL

43.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

1-Inspect for Foreign objects

2-Install Aft cap as per Dwg D3582, Detail "C"

A/R 241 Sika Flex

Batch:

M108801

Exp Date:

08-10

3-Install Wearplates as per Dwg D3582 ,

Note:Install Bolt and washer on Ground Wire inserts on top of tube see section D-D of dwg D3582

\*\*\*\*\*Do not install bolts where indicated on Dwg(Note #6)\*\*\*\*\*

A/R 241 Sika Flex

Batch:

M108801

Exp Date:

08-10

4- Wing Walk as per Dwg D3043 and QSI 005 4.4

BL 08-08-20  
FL 08/08/20

44.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

S 08/08/21

45.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D117-762041

Location:

PPP

PPP Rev:

8/8/25

12

30

46.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

08/08/26

Job Completion



u 08.08.26

**Dart Aerospace Ltd**

W/O: <input type="text"/>		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

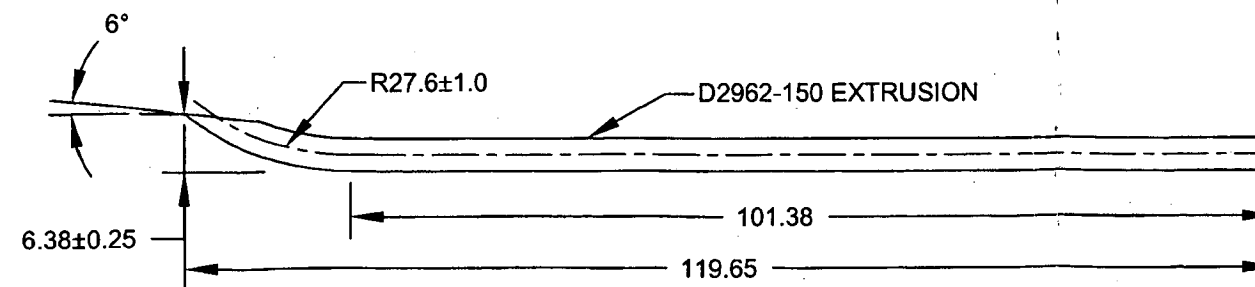
**NOTE:** Date & initial all entries

# PARTS LIST FOR D3582-041 SKIDTUBE ASSEMBLY

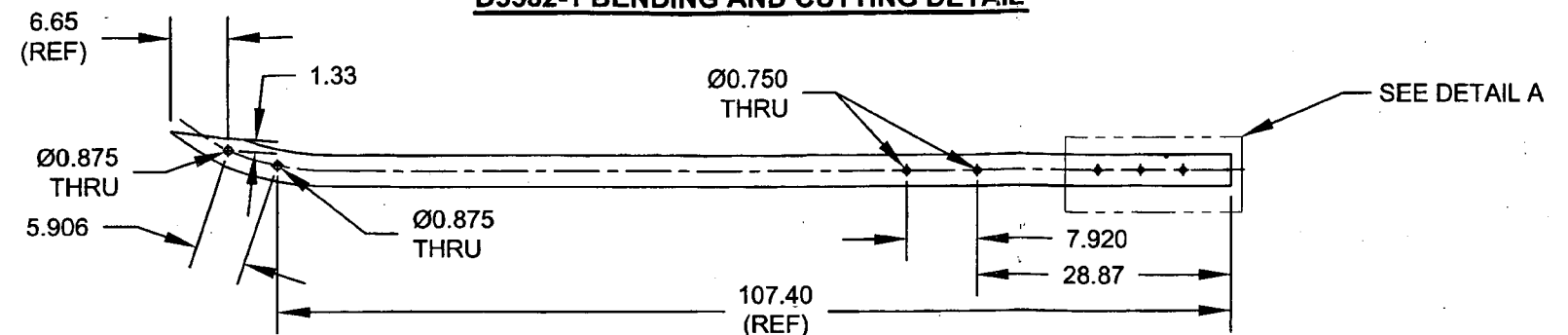
Qty	Part Number	Description
X	D3582-041	SKIDTUBE ASSEMBLY
1	D2962-150	EXTRUSION
1	D2964	CAP
1	D2965	CAP
1	D2971	CROSS BOLT SPACER
2	D2973	CROSS BOLT SPACER
2	D3492-049	PLUG ASSEMBLY
2	D3492-051	PLUG ASSEMBLY
6	D3492-053	PLUG ASSEMBLY
1	D3508-3	WEARPLATE
1	D3508-9	WEARPLATE
1	D3508-11	WEARPLATE
1	D3508-13	WEARPLATE
1	D3558-3	GASKET
1	D3558-9	GASKET
1	D3558-11	GASKET
1	D3558-13	GASKET
1	D3584-1	WEB
3	D3662-1	CROSS BOLT SPACER
1	D3662-3	CROSS BOLT SPACER
36	AELS-1032-130	INSERT
2	ALS7-428-165	INSERT
28	AN3C4A	BOLT
2	AN3-5A	BOLT
2	AN4-4A	BOLT
28	AN960C10L	WASHER
2	AN960JD10L	WASHER
2	AN960JD416L	WASHER

## GENERAL NOTES:

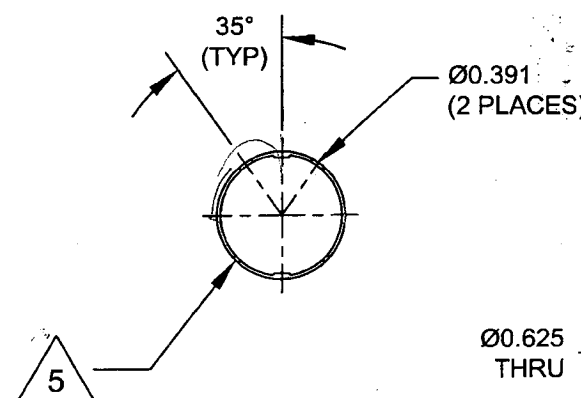
- ALL DIMENSIONS ARE IN INCHES
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- WELDING TO BE DONE PER DART QSI 004.
- INSERT D3584-1 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015 AFTER BENDING.
- USE DART DRILL TEMPLATE DT8900 TO LOCATE AND DRILL  $\varnothing 0.297$  HOLES (36 PLACES) FOR WEARSHOE INSERTS. INSTALL AELS-1032-130 PER SECTION G-G (36 PLACES) AFTER FINISH. SEAL WEARPLATE BOLTS WITH SIKAFLEX-241/291.
- DO NOT INSTALL AN3C4A BOLTS AND AN960C10L WASHERS IN INDICATED LOCATIONS.
- FINISH:
  - CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSERTING D3584-1 WEB.
  - POWDER COAT ASSEMBLY GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3.
  - ANTI-SKID PAINT AS INDICATED TO 1.00 ABOVE CENTER LINE PER DART QSI 005 4.4



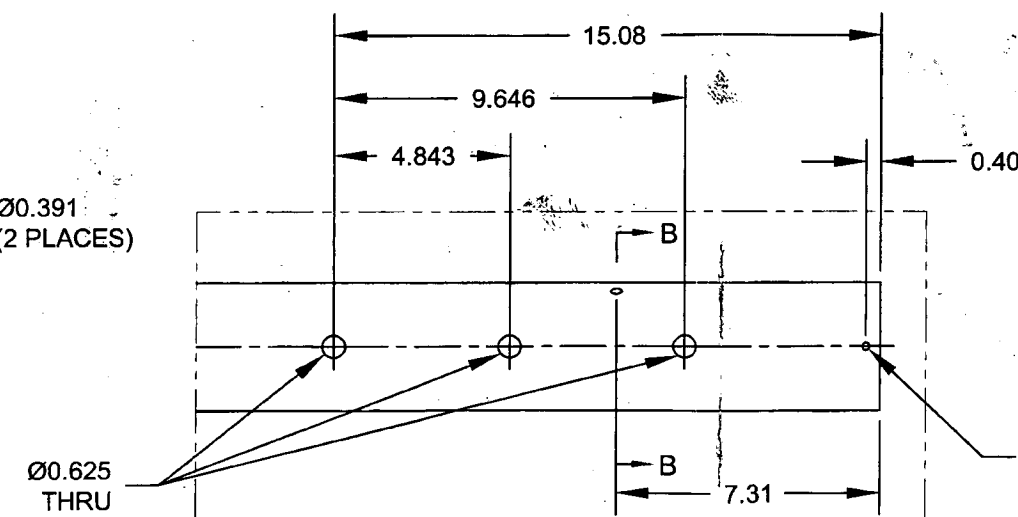
D3582-1 BENDING AND CUTTING DETAIL



D3582-1 DRILLING DETAIL



SECTION B-B  
SCALE 1:5



DETAIL A  
SCALE 1:5

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A	NEW ISSUE	PH	07.06.08
REV.	DESCRIPTION	BY	DATE
DESIGN	2A	DART AEROSPACE USA, INC PORT HADLOCK, WA	
DRAWN	PH		
CHECKED	5	DRAWING NO.	REV. A
MFG. APPR.	110	D3582	SHEET 1 OF 2
APPROVED	110	TITLE	SCALE
DE APPR.	110	BK 117 SKIDTUBE ASSEMBLY	1:20
DATE	07.06.08	COPYRIGHT © 2007 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

8

7

6

5

4

3

2

1

D2964 CAP  
(GRIND FLUSH)

**DETAIL C**  
SCALE 1:10

D2971 SPACER

AFTER FINISH  
INSTALL,  
D3492-049  
PLUG ASSEMBLY  
(2 PLACES)

**SECTION D-D**  
SCALE 3:10

AFTER FINISH  
INSTALL,  
D3492-051  
PLUG ASSEMBLY  
(2 PLACES)

**SECTION E-E**  
SCALE 3:10

D3662-3 SPACER

**SECTION D-D NOTES**

AFTER BENDING AND DRILLING ASSEMBLY  
PERFORM THE FOLLOWING:

1. CHAMFER HOLE 0.030 x 45°
2. INSERT D2971 SPACER
3. WELD INTO PLACE AND GRIND FLUSH
4. PASS Ø0.750 DRILL TO REMOVE SPILL OVER
5. AFTER FINISH, INSTALL D3492-049 PLUG ASSEMBLY (2 PLACES)

**SECTION E-E NOTES**

AFTER BENDING AND DRILLING ASSEMBLY  
PERFORM THE FOLLOWING:

1. CHAMFER HOLE 0.030 x 45°
2. INSERT D3662-3 SPACER
3. WELD INTO PLACE AND GRIND FLUSH
4. PASS Ø0.672 DRILL TO REMOVE SPILL OVER
5. AFTER FINISH, INSTALL D3492-051 PLUG ASSEMBLY (2 PLACES)

D2973 SPACER  
(2 PLACES)

**SECTION F-F**  
SCALE 3:10

**SECTION F-F NOTES**

AFTER BENDING AND DRILLING ASSEMBLY  
PERFORM THE FOLLOWING:

1. CHAMFER HOLE 0.030 x 45°
2. INSERT D2973 SPACER (2 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. PASS Ø0.625 DRILL TO REMOVE SPILL OVER

AFTER FINISH, INSTALL  
AELS-1032-130  
INSERT (36 PLACES)

AN3C4A BOLT (1)  
AN960C10L WASHER (1)  
(28 PLACES)

**SECTION G-G**  
SCALE 3:10

**SECTION G-G NOTES**

AFTER BENDING AND DRILLING ASSEMBLY  
PERFORM THE FOLLOWING:

1. CHAMFER HOLE 0.030 x 45°
2. INSERT D3662-1 SPACER (3 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. PASS Ø0.515 DRILL TO REMOVE SPILL OVER
5. AFTER FINISH, INSTALL D3492-053 PLUG ASSEMBLY (6 PLACES)

D3584-1 WEB (REF)

D3662-1 SPACER  
(3 PLACES)

AFTER FINISH, INSTALL  
ALS7-428-165 INSERT (1)  
AN4-4A BOLT (1)  
AN960JD416L WASHER (1)  
(2 PLACES)

AFTER FINISH  
INSTALL,  
D3492-053  
PLUG ASSEMBLY  
(6 PLACES)

DETAIL C

D3558-9  
D3508-9

NO BOLTS AT  
THESE LOCATIONS

D3558-3

D3558-11

D3508-3

D3508-11

DETAIL H

D3558-13

D3508-13

NO BOLTS AT  
THESE LOCATIONS

**D3582-041 ASSEMBLY DETAIL**

BLACK ANTI-SKID

BLACK ANTI-SKID (TYP)

**D3582-041 BLACK ANTI-SKID DETAIL**

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SEAL WITH  
SIKAFLEX -241/-291

D2965 CAP

**DETAIL H**  
SCALE 1:5

**RELEASED**

DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
DRAWN	PH	PORT HADLOCK, WA	
CHECKED	PH	DRAWING NO.	REV. A
MFG. APPR.	PH	D3582	SHEET 2 OF 2
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	BK 117 SKIDTUBE ASSEMBLY	1:20
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NO. 148

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Barclay Elliot  
Job number: 38388A  
Part number: D117 762 OUI  
Description: Skid tube Bk117  
Welding Process: Tig[☒] Mig[ ]  
Base material: Aluminium  
Current: AC[☒] DC[ ]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[ ]  
Penetration: pass[☒] fail[ ]

UNACCEPTABLE

Cracks: pass[☒] fail[ ]  
Undercut: pass[☒] fail[ ]  
Pin holes: pass[☒] fail[ ]  
Overlap (cold lap): pass[☒] fail[ ]  
Porosity (surface): pass[☒] fail[ ]  
Coloration: pass[☒] fail[ ]

Qualifier Pat Duval Date of Test Coupon 08-04-14  
Welder Barclay Elliot Date of Test Coupon 08-07-14

The above named individual is qualified in accordance with AWS D17.1.2001 to weld